CERES Requirements Log - Instrument

Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
1-1	REMOVED		Kory Priestley	Instrument	Team	Team Mtgs	2001	2001	On-going activity, removed 08/03/2006	Updates for Terra and Aqua approximately every 6 mos. 08/03/2006: Entered under earlier guidance, but not longer relevant under the new Reqts Management Plan -- per Action Item #3 of Reqt. Management QA Audit (dated July 27, 2006).
1-2	REMOVED		Kory Priestley	Instrument	Phil/Dianne	Team Mtgs	2002	2002	On-going activity, removed 08/03/2006	Web Pages updated on a periodic basis depending on data type/availability. 08/03/2006: Entered under earlier guidance, but no longer relevant under the new Reqts. Management Plan -- per Action Item #3 of Reqt. Management QA Audit (dated July 27, 2006).
1-3	REMOVED		Jim Kibler	Instrument	Team	Team Mtgs	1999	1999	On-going activity, removed 08/03/2006	Monitor QC reports and data products on a periodic basis based on data type/availability. 08/03/2006: Entered under earlier guidance, but no longer relevant under new Reqts. Management Plan -- per Action Item #3 of Reqt. Management QA Audit (dated July 27, 2006).
1-4	REMOVED		Kory Priestley	Instrument	Team	Team Mtgs	1992	1992	On-going activity, removed 08/03/2006	Update Instrument Subsystem code as necessary when problems are discovered with the code or changes in the instruments are discovered. 08/03/2006: Entered under earlier guidance, but not longer relevant under new Reqts. Management Plan -- per Action Item #3 of Reqt. Management QA Audit (dated July 27, 2006).

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1-5	Add Solar and Lunar angles to the BDS	599 & 607	Kory Priestley	Instrument	Denise	Team Mtgs	9/1/2005	9/1/2005	11/18/2005 - 599, 12/21/2005 - 607	Updates for CER1.1P1-6 have been completed and are being tested. Updates for CER1.3P3 have begun and are in process. Updates for CER1.3P1 have not yet begun. 11/18/05: Code delivered to CERES CM. 12/20/2005: An error found during ValR7/8 testing showed that CER1.2P1 had an error introduced with the updates done for SCCR #599. Since the code had been promoted a new SCCR #607 had to be opened to fix the error. SCCR #607 was delivered to CERES CM on 12/21/2005. ValR7 and ValR8 Testing validated and accepted 1/10/2006.
1-6	Update Instrument code to account for heating of the sensors during sunrise/sunset events	599	Kory Priestley	Instrument	Denise	Team Mtgs	9/1/2005	9/1/2005	11/18/2005	Algorithm and limits are being determined. The algorithm will be added to CER1.1P1-6 and CER1.3P3 if necessary. 11/18/05: Code delivered to CERES CM. ValR7 and ValR8 Testing validated and accepted 1/10/2006.
1-7	Update Instrument QC reports to include input parameters and radiance count conversion values	599	Kory Priestley	Instrument	Denise	Team Mtgs	2005	2005	11/18/2005	Updates are being added to CER1.1P1-6 and CER1.3P3 QC reports. Updates to CER1.1P1-6 have been completed and are being tested. Updates are still being made to CER1.3P3. 11/18/05: Code delivered to CERES CM. ValR7 and ValR8 Testing validated and accepted 1/10/2006.
1-8	Update Standard Deviation Threshold test for the spaceclamp region of the scan to catch bit flips that occur in the spaceclamp.	599	Kory Priestley	Instrument	Denise	Team Mtgs	10/4/2005	10/4/2005	11/18/2005	Phil did extensive analysis and came up with the new thresholds that should be used for each channel on each instrument. These values will be updated in the Count Conversion data ancillary data files. 11/18/05: Code delivered to CERES CM. ValR7 and ValR8 Testing validated 1/10/2006.
1-9	Update BDS Read Package to match updates done for SCCR# 599, Reqt. 1-5 addition of Solar and Lunar Angles in the BDS data products.	605	Erika Geier	Instrument	Denise	Product Release Checklist	11/18/2005	11/18/2005	11/22/2005	Update BDS Read Package to reflect the addition of new Solar and Lunar Angles from SCCR# 599, Reqt. 1-5. ValR7 and ValR8 Testing validated 1/10/2006.

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1-10	Hour 23 for 12/31/2005 cannot be processed due to an error creating the IES Header, due to the addition of a Leap Second on this date. This affects the Terra and Aqua instruments.	610	DMT	Instrument	Denise	Problem in Production Processing	1/3/2006	1/5/2006		01/13/2006: This problem only affects the last hour of the year 2005, therefore, it was decided that the fix will be incorporated into the Instrument Software Baseline, but it will not be delivered to CERES CM at this time. It will however be delivered with any delivery that is scheduled in the future. 08/03/2006: Provider changed from ASDC to DMT, per Action Item #1 from Reqt. Management QA Audit.
1-11	CER1.2P1 ASCII file generator had a problem when looking for existing ephemeris files for Terra for 3/31/2000. The search key showed up as part of the filename of a file with the newest filenaming convention. This occurred while looking for the previous day's ephemeris file.	613	DMT	Instrument	Denise	Problem in Production Processing	1/26/2006	1/26/2006	1/27/2006	01/26/2006: A delta delivery will be made to correct this problem, which may occur again while processing Edition1-CV. The update will also be made to CER1.1P3 ASCII file generators to avoid any related problems with this PGE. 01/27/06: Delta delivery made to CERES CM. 08/03/2006: Provider changed from ASDC to DMT, per Action Item #1 from Reqt. Management QA Audit.

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
1-12	Port all PGEs to the Mac G5 and JS20 clusters at the SCF and ASDC respectively.	610	Mike Little	Instrument	Denise, Jim Donaldson	E-mail	3/1/2006	3/1/2006		All CERES subsystem code is being ported to the G5 and JS20 clusters in an effort to save money on processing hardware cost and maintenance. 4/12/2006: Jim has successfully converted CER1.1Px, CER1.2P1 to the cluster environment. He is still working on CER1.3P3 where TRMM has some differences that need to be investigated before this PGE can be considered complete. Jim will also be converting the ASCII file and PCF generator and run scripts from tcsh to PERL as time permits. 05/25/2006: During port to the Linux cluster at ASDC a problem with the To_Ada built-in function was discovered. In the Linux environment the TERMINATOR_ERROR exception is raised causing the program to abort. A fix to capture this exception and properly handle it to allow program to continue processing is being worked. 08/03/2006: Adding these updates to SCCR# 610, as the update needed for this SCCR will be included when this software is delivered. As directed by Action Item #2 of Reqts. Management QA Audit.
1-13	Fix Error noted at ASDC during ValR testing of CER1.3P3 the PCF file did not allow user to set Start and Stop times. Needed to process 12/31/2005, this is due to the addition of the leap second on this date for Aqua and Terra spacecrafts.	621	ASDC SIT Staff	Instrument	Denise	E-mail	4/12/2006	4/12/2006	4/28/2006	CER1.3P3 fails for 12/31/2005, this is due to the problem with the IES routines for this date. The workaround is to set the stop time to 22:59:59.999999, however the ASCII file and PCF generator do not accept stop time as a parameter. Also, the satellite is not getting set properly, as it was hardcoded to Terra. 04/28/2006: CER1.3P3 promoted to production -- requirement now closed.

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
1-14	Scripts for CER1.3P3 need to be updated to be able to handle two versions of the Count Conversion Data ancillary data file. The existing Edition2 data version and the upcoming Edition3 data version.	627	Erika Geier	Instrument	Denise	Phone	5/24/2006			5/25/2006: Edition2 processing may be required in the future to allow continued Edition2 production. This will also allow us to recreate any corrupted or missing Edition2 data files. This requires the creation of a new Edition3 Count Conversion Data ancillary data file along with an update to the script to select the proper data file based on the Edition being processed. This update will be delivered at the same time the new Edition3 Count Conversion Data ancillary data files are delivered.
1-15	Create a new PGE for the Simulated IES software.	641	Erika Geier	Instrument	Denise	E-mail/Phone	11/20/2006	11/20/2006		12/06/2006: The original code has been copied from warlock to thunder to be updated. Since the original delivery was done in a "one-time only" fashion, many of the pieces needed for a full delivery are missing and must be created. Also, all existing scripts must be updated to work with the new Toolkit, as many things have changed since the original delivery of this code.
1-16	Fix problem with processing Terra FM2 for 02/08/2007. A DAC update is flagged for the SW channel at 12:05:06 UT, but the sample number has been corrupted in the Level-0 data packet. The data is showing sample number 657 instead of the expected 644. Since the software needs 3 samples after sample 657 to determine the update, this causes an exception, because 3 samples are not available, they are outside the array boundary. Currently, 02/08/2007 cannot be processed due to this error.	610	ASDC Operations	Instrument	Denise	E-mail	2/12/2007	2/12/2007	04/11/08: Delivered to CERES CM	02/20/2007: The code has been updated to ignore the DAC update flag if the given sample number is >= 657. The routine that calculates the update, instead sends back a CERES fill-value, which then tells the calling routine to ignore the update. This update will be delivered with the other existing Edition3/cluster/production errors in July 2007.
1-17	Move all Instrument PGEs to the new directory structure defined by the SEC.	610	SEC	Instrument	Denise	DMT Meeting	2/1/2008	2/1/2008	4/11/08: Delivered to CERES CM	04/22/2008: The decision to deliver the last update of the Ada code in the new directory structure was made to make the transistion of the new C++ version of code easier to implement one PGE at a time.

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1-18	Create a Level-0/ephemeris/attitude data preprocessor for the NPP FM5 RDR data.		Kory Priestley	Instrument	Ashley/Kam-Pui	Instrument Meeting	3/27/2008	3/27/2008		04/22/2008: Code to read, sort and write out Level-0 data has been started, however the exact format of the HDF5 wrapper for the data and the ephemeris and attitude data formats have not yet been defined.
1-19	Convert PGE CER1.1P1-6 to C++ and add all necessary updates to support CERES FM5 on NPP. Create C-versions of the CERESlib metadata routines to support this effort.		Kory Priestley	Instrument	Ashley/Denise/Mohammad	Instrument Meeting	3/27/2008	3/27/2008		04/22/2008: The first step in the process is to create a C-version of the CERESlib metadata routines to improve access to these routines from C++ and Ada. Mohammad is currently working on these new routines. Ashley is beginning work on some of the common classes for all the PGEs.
1-20	Convert PGE CER1.3P1 to C++.		Kory Priestley	Instrument	TBD	Instrument Meeting	3/27/2008	3/27/2008		04/22/2008: This PGE will be converted after all work on PGE CER1.1P1-6 has been completed for NPP launch, since the output from CER1.1P1-6 will be readable by the Ada version of this PGE.
1-21	Convert PGE CER1.3P2 to C++.		Kory Priestley	Instrument	TBD	Instrument Meeting	3/27/2008	3/27/2008		04/22/2008: This PGE will be converted after all work on PGE CER1.1P1-6 has been completed for NPP launch, since the output from CER1.1P1-6 will be readable by the Ada version of this PGE.
1-22	Convert PGE CER1.3P3 to C++.		Kory Priestley	Instrument	TBD	Instrument Meeting	3/27/2008	3/27/2008		04/22/2008: This PGE will be converted after all work on PGE CER1.1P1-6 has been completed for NPP launch, since the output from CER1.1P1-6 will be readable by the Ada version of this PGE.
1-23	Fix problem with run script for CER1.1P1-6	678	Kory Priestley	Instrument	Denise	E-mail	8/6/2008	8/6/2008	8/6/2008	08/06/2008: The run script had an issue where it could not find the PCF file when looking for BDS filenames when the script was run in Codine. The script was updated to add the directory path to the PCF filename, which fixed the problem and a delta delivery was made on 8/6/08.

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1-24	Fix problem with Perl module selecting ephemeris and attitude data files	679	Kory Priestley	Instrument	Denise	E-mail	8/8/2008	8/8/2008	8/8/2008	08/08/2008: The Perl routine within the Instrument Perl modules that selects ephemeris and attitude data files for mysterious reasons was selecting the .met file for hr 10 of Terra ephemeris data for 08/02/2008. A change in how the script skips .met files was implemented and sent to CERES CM as a delta delivery.
1-25	Fix problem with Perl module not having the directory for the BDSF environment variable defined	681	Kory Priestley	Instrument	Denise	E-mail	8/13/2008	8/13/2008	8/13/2008	08/13/2008: The Perl routine that sets up the environment in the production runtime environment was found to be missing the directory environment variable for the BDSF, which was causing error messages to be displayed although since we do not create BDSFs on any regular basis it did not cause a failure of the production run. Since this was caught during the last phase of SIT operational testing, the fix is being implemented now before ValR10 production begins.
1-26	Deliver new PGE CER1.0P1, CERES NPP RDR preprocessor	698	Kory Priestley	Instrument	Ashley	NPP DMT Meeting	Spring '08	Spring '08		02/03/2009: CERES RDR preprocessor initial deliveryin testing.
1-27	CER1.1.P8, Build 1	703	Kory Priestley	Instrument	Thomas	NPP DMT Meeting	Spring '08	Spring '08		02/03/2009: CERES NPP Build1 initial deliveryin testing.
1-28	CER1.4P1	TBD	Kory Priestley	Instrument	Ashley	E-mail	1/30/2009	1/30/2009		02/03/2009: C++ version of CER1.3P1 BDS subsetter, using to test HDF C++ classes.
1-29	CER1.1P7, new PGE to support NPP-FM5 processing using updated Ada code. CER1.2P1 update to accept FM5 as a valid instrument.	702	Kory Priestley	Instrument	Denise	Meeting	1/30/2009	1/30/2009		02/18/2009: Add requirement for Ada version of the NPP-FM5 production code for delivery to warlock and possibly the x86. Update CER1.2P1 as necessary to support FM5, this PGE may not need to be updated unless this is delayed to support the PGEs on the x86 platform.